Guopeng Liang, Ph.D.

Department of Ecology and Evolutionary Biology, Yale University, New Haven, CT, USA

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EDUCATION

Ph.D. in *Biology* 2022

Utah State University, Logan, UT.
Advisors: Bonnie Waring and John Stark
Dissertation: Global change effects on carbon cycling in terrestrial ecosystems

M.S. in *Soil Science* 2016

Chinese Academy of Agricultural Sciences, Beijing, China.
Thesis: Effects of fertilization and tillage on soil respiration and biochemical properties in croplands

B.S. in *Agricultural Resources and Environment*/*Laws* 2013

Shandong Agricultural University, Tai'an, China

PROFESSIONAL EXPERIENCE

Brown Postdoctoral Fellow, Yale University 2024 – present

Advisor: Michelle Wong
Research: Controls on tree mortality and productivity

Institute for Global Change Biology Postdoctoral Exchange Fellow, University of Michigan 2024 – present

Synthesis Skills for Early Career Researchers Fellow, National Center for Ecological Analysis and Synthesis 2024 – 2025

Environmental Leadership and Mentoring Certificate Program Fellow, Yale School of the Environment 2024 – 2025

The American Geophysical Union College of Fellows Mentoring Network Fellow 2024 – 2025

Postdoctoral Associate, University of Minnesota 2022 – 2024

Advisor: Peter Reich
Research: Effects of climate change and biodiversity on soil carbon cycling in forests

RESEARCH INTERESTS

Global Change Ecology, Ecosystem Carbon Cycling, Plant Ecology, Soil Biogeochemistry, Plant-Soil-Microbe Interactions, Agricultural Management, Food Security, Environmental Sustainability

RESEARCH EXPERIENCE

I study the effects of climate change (e.g. warming, drought, nitrogen deposition, and elevated CO_2), agricultural management (e.g. inorganic and organic fertilization and tillage), and biodiversity on soil

carbon cycling and plant productivity by using multiple approaches (e.g. field study, incubation experiment, meta-analysis, DNA sequencing, isotope technique, and modeling). My research goal is to identify nature-based solutions to climate mitigation, soil health, and food security.

PEER-REVIEWED PUBLICATIONS (available at Google Scholar and ResearchGate)

(Google Scholar: H index = 26, 2400+ citations; * denotes corresponding author)

Sole author:

1. **Liang, G*** (2025) Tree diversity increases soil carbon accumulation. ***Nature Reviews Biodiversity***.
2. **Liang, G*** (2025) Global pattern of warming effects on microbial respiration is explained by soil microbial biomass carbon and nitrogen. ***CATENA***.
3. **Liang, G*** (2022) Nitrogen fertilization mitigates global food insecurity by increasing cereal yield and its stability. ***Global Food Security***.

First and/or corresponding author:

4. **Liang, G***., Sun, P., Waring, B., Fu, Z., Reich, P* (2025) Alleviating nitrogen and phosphorus limitation does not amplify potassium-induced increase in terrestrial biomass. ***Global Change Biology***.
5. **Liang, G***., Stefanski, A., Eddy, W., Bermudez, R., Montgomery, R., Hobbie, S., Rich, R., Reich, P* (2024) Soil respiration response to decade-long warming modulated by soil moisture in a boreal forest. ***Nature Geoscience***.
   Featured in The Michigan Daily, "New U-M research suggests carbon dioxide emissions from forest soil increasing as the climate warms", October 2024;
   Featured in The Science Daily, "A leaky sink: Carbon emissions from forest soil will likely grow with rising temperatures", September 2024;
   Reported by Earth.com, "Warming soils release more carbon than plants can replace", August 2024.
6. **Liang, G**., Stark, J., Waring, B (2023) Mineral reactivity determines root effects on soil organic carbon. ***Nature Communications***.
7. **Liang, G**., Reed, S., Stark, J., Waring, B (2023) Unraveling mechanisms underlying effects of wetting-drying cycles on soil respiration in a dryland. ***Biogeochemistry***.
8. **Liang, G***., Sun, P., Waring, B (2022) Nitrogen agronomic efficiency under nitrogen fertilization does not change over time in the long term: Evidence from 477 global studies. ***Soil and Tillage Research***.
9. Liu, X., Tan, S., Song, X., Wu, X., Zhao, G., Li, S., **Liang, G*** (2022) Response of soil organic carbon content to crop rotation and its controls: A global synthesis. ***Agriculture, Ecosystems & Environment***.
10. **Liang, G**., Wu, X., Cai, A., Dai, H., Zhou, L., Cai, D., Houssou, A., Gao, L., Wang, B., Li, S., Song, X., Wu, H (2021) Correlations among soil biochemical parameters, crop yield, and soil respiration vary with growth stage and soil depth under fertilization. ***Agronomy Journal***.
11. **Liang, G***., Luo, Y., Zhou, Z., Waring, B (2021) Nitrogen effects on plant productivity change at decadal time-scales. ***Global Ecology and Biogeography***.

12. **Liang, G**., Cai, A., Wu, H., Wu, X., Houssou, A., Ren, C., Wang, Z., Gao, L., Wang, B., Li, S., Song, X., Cai, D (2019) Soil biochemical parameters in the rhizosphere contribute more to changes in soil respiration and its components than those in the bulk soil under nitrogen application in croplands. ***Plant and Soil***.
13. **Liang, G**., Wu, H., Houssou, A., Cai, D., Wu, X., Gao, L., Wang, B., Li, S (2018) Soil respiration, glomalin content, and enzymatic activity response to straw application in a wheat-maize rotation system. ***Journal of Soils and Sediments***.
14. **Liang, G**., Houssou, A., Wu, H., Wu, X., Cai, D., Gao, L., Li, J., Wang, B., Li, S (2016) Soil nitrogen content and enzyme activities in the rhizosphere and non-rhizosphere of summer maize under different nitrogen application rates. ***Chinese Journal of Applied Ecology***. (in Chinese with English abstract)
15. **Liang, G**., Houssou, A., Wu, H., Cai, D., Wu, X., Gao, L., Li, J., Wang, B., Li, S (2015) Seasonal patterns of soil respiration and related soil biochemical properties under nitrogen addition in winter wheat field. ***PLoS ONE***.

<u>Co-author:</u>

1. Fu, H., Chen, H., Ma, Z., **Liang, G**., Chadwick, D., Jones, D., Wanek, W., Wu, L., Ma, Q (2025) Fungal Necromass Carbon Dominates Global Soil Organic Carbon Storage. ***Global Change Biology***.
2. Fu, H., Chen, H., Ma, Z., **Liang, G**., Tian, J., Wanek, W., Chadwick, D., Jones, D., Wu, L., Ma, Q (2025) Global Synthesis of Fertilisation-Induced Changes in the Microbial Entombing Effect. ***Global Change Biology***.
3. Yao, R., Fu, H., Liu, X., Liu, F., Wanek, W., **Liang, G**., Chadwick, D., Jones, D., Wu, L., Ma, Q (2025) Meta-analysis of the accumulation and stabilisation of particulate and mineral-associated organic carbon by fertilization. ***Soil and Tillage Research***.
4. Fan, T., Huang, J., **Liang, G**., Liu, S., Hu, D., Su, L., Liu, Y., Cai, Y., Li, S., Guo, P., Luo, M., Tong, C (2025) Unexpectedly stable soil organic carbon in tidal marshes under combined nitrogen loading and increased inundation compared to individual effects. ***Limnology and Oceanography***.
5. Ren, L., Dong, L., **Liang, G**., Han, Y., Li, J., Fan, Q., Wei, D., Zou, H., Zhang, Y (2025) Microbially mediated mechanisms underlie N2O mitigation by bio-organic fertilizer in greenhouse vegetable production system. ***Applied Soil Ecology***.
6. Wang, L., See, C., Wang, H., Cao, R., **Liang, G**., Zhang, A., Wang, Z., Wang, Q., Wang, Z., Liu, B., Yang, W (2025) Soil fauna trophic multifunctionality mediates the release of elements from decomposing typhoon-generated leaf litter. ***Functional Ecology***.
7. Wang, X., Li, H., Liang, G., Li, Z., Qi, P., Xue, J., Chen, J., Wu, J (2025) Phosphorus Fertilization Reduces Soil Microbial Necromass Carbon Content in Tillage Layer of Dry Farmland on Loess Plateau. ***Agriculture***.
8. Zhou T., **Liang, G**., Reich, P., Delgado-Baquerizo, M., Wang, C., Zhou, Z (2024) Promoting effect of plant diversity on soil microbial functionality is amplified over time. ***One Earth***.
9. Willard, S., **Liang, G**., Adkins, S., Foley, K., Murray, J., Waring, B (2024) Land use drives the distribution of free, physically protected, and chemically protected soil organic carbon storage at a global scale. ***Global Change Biology***.

10. Li, S., Wu, X., Song, X., Liu, X., Gao, H., **Liang, G**., Zhang, M., Zheng, F., Yang, P (2024) Long-term nitrogen fertilization enhances crop yield potential in no-tillage systems through enhancing soil fertility. ***Resources, Conservation & Recycling***.
11. Liu, P., Wang, D., Li, Y., Liu, J., Cui, Y., **Liang, G**., Wang, C., Wang, C., Moorhead, D., Chen, J (2024) Crop conversion from annual to perennials: an effective strategy to affect soil multifunctionality. ***Agronomy***.
12. Wilcox, K., Chen, A., Avolio, M., Butler, E., Collins, S., Fisher, R., Keenan, T., Kiang, N., Knapp, A., Koerner, S., Kueppers, L., **Liang, G**., Lieungh, E., Loik, M., Luo, Y., Poulter, B., Reich, P., Renwick, K., Smith, M., Walker, A., Weng, E., Komatsu, K (2023) Accounting for herbaceous communities in process-based models will advance our understanding of "grassy" ecosystems. ***Global Change Biology***.
13. Li, Y., Li, Y., Zhang, Q., **Liang, G**., Carmona, C., Kim, D., Yang, M., Yao, B., Xue, J., Xiang, Y., Shen, Y (2023) Enhancing soil carbon and nitrogen through grassland conversion from degraded croplands in China: Assessing magnitudes and identifying key drivers of phosphorus reduction. ***Soil and Tillage Research***.
14. Liu, X., Song, X., Li, S., **Liang, G**., Wu, X (2023) Understanding how conservation tillage promotes soil carbon accumulation: Insights into extracellular enzyme activities and carbon flows between aggregate fractions. ***Science of The Total Environment***.
15. Li, S., Jiao, L., Wu, X., Song, X., Liu, X., Gao, H., Han, Z., Lu, J., **Liang, G** (2023) Negative pressure irrigation as a potential technique for increasing vegetable yields and decreasing nitrous oxide emissions. ***Scientia Horticulturae***.
16. Li, S., Liu, X., Wu, X., Lu, J., Abdelrhman, A., **Liang, G** (2023) Factors governing soil hydrological function under long-term tillage practices: Insight into soil water repellency. ***Soil Science Society of America Journal***.
17. Ren, T., Tang, S., Han, T., Wang, B., Zhou, Z., **Liang, G**., Cai, A (2023) Positive rhizospheric effects on soil carbon are primarily controlled by abiotic rather than biotic factors across global agroecosystems. ***Geoderma***.
18. Gao, H., Xi, Y., Wu, X., Pei, X., **Liang, G**., Bai, J., Song, X., Zhang, M., Liu, X., Han, Z., Zhao, G., Li, S (2023) Partial substitution of manure reduces nitrous oxide emission with maintained yield in a winter wheat crop. ***Journal of Environmental Management***.
19. Lu, J., Li, S., Wu, X., **Liang, G**., Gao, C., Li, J., Jin, D., Wang, B., Zhang, M., Zheng, F., Degré, A (2023) The dominant microorganisms vary with aggregates sizes in promoting soil carbon accumulation under straw application. ***Archives of Agronomy and Soil Science***.
20. Yin, S., **Liang, G**., Wang, C., Zhou, Z (2022) Asynchronous seasonal patterns of soil microorganisms and plants across biomes: A global synthesis. ***Soil Biology and Biochemistry***.
21. Song, X., Liu, X., **Liang, G**., Li, S., Li, J., Zhang, M., Zheng, F., Ding, W., Wu, X., Wu, H (2022) Positive priming effect explained by microbial nitrogen mining and stoichiometric decomposition at different stages. ***Soil Biology and Biochemistry***.
22. Liu, X., Li, Q., Tan, S., Wu, X., Song, X., Gao, H., Han, Z., Jia, A., **Liang, G**., Li, S (2022) Evaluation of carbon mineralization and its temperature sensitivity in different soil aggregates and moisture regimes: A 21-year tillage experiment. ***Science of the Total Environment***.

23. Wen, J., Brahney, J., Lin, Y., Ma, Z., Sun, N., Zheng, J., Ji, H., Kang, H., Du, B., **Liang, G**., Umair, M., Liu, C (2022) The scaling of leaf nitrogen and phosphorus along a phosphorus availability gradient in a subtropical forest. ***Plant Ecology***.
24. Waring, B., Gee, A., **Liang, G**., Adkins, S (2022) A quantitative analysis of microbial community structure-function relationships in plant litter decay. ***iScience***.
25. Song, X., Li, J., Liu, X., **Liang, G**., Li, S., Zhang, M., Zheng, F., Wang, B., Wu, X., Wu, H (2022) Altered microbial resource limitation regulates soil organic carbon sequestration based on ecoenzyme stoichiometry under long-term tillage systems. ***Land Degradation and Development***.
26. Liu, X., Wu, X., **Liang, G**., Zheng, F., Zhang, M., Li, S (2021) A global meta-analysis of the impacts of no-tillage on soil aggregation and aggregate-associated organic carbon. ***Land Degradation and Development***.
27. Lu, J., Li, S., **Liang, G**., Wu, X., Zhang, Q., Gao, C., Li, J., Jin, D., Zheng, F., Zhang, M., Abdelrhman, A., Degré, A (2021) The contribution of microorganisms to soil organic carbon accumulation under fertilization varies among aggregate size classes. ***Agronomy***.
28. Xu, H., Cai, A., Wu, D., **Liang, G**., Xiao, J., Xu, M., Colinet, G., Zhang, W (2021) Effects of biochar application on crop productivity, soil carbon sequestration, and global warming potential controlled by biochar C: N ratio and soil pH: A global meta-analysis. ***Soil and Tillage Research***.
29. Li, S., Tan, D., Wu, X., Degré, A., Long, H., Zhang, S., Lu, J., Gao, L., Zheng, F., Liu, X., **Liang, G** (2021) Negative pressure irrigation increases vegetable water productivity and nitrogen use efficiency by improving soil water and NO_3^--N distributions. ***Agricultural Water Management***.
30. Li, S., Lu, J., **Liang, G**., Wu, X., Zhang, M., Plougonven, E., Wang, Y., Gao, L., Abdelrhman, A., Song, X., Liu, X., Degré, A (2021) Factors governing soil water repellency under tillage management: The role of pore structure and hydrophobic substances. ***Land Degradation and Development***.
31. Cai, A., **Liang, G**., Yang, W., Zhu, J., Han, T., Zhang, W., Xu, M (2021) Patterns and driving factors of litter decomposition across Chinese terrestrial ecosystems. ***Journal of Cleaner Production***.
32. Li, Y., Li, Z., Cui S., **Liang, G**., Zhang, Q (2021) Microbial-derived carbon components are critical for enhancing soil organic carbon in no-tillage croplands: A global perspective. ***Soil and Tillage Research***.
33. Li, S., Wu, X., **Liang, G**., Gao, L., Wang, B., Lu, J., Abdelrhman, A., Song, X., Zhang, M., Zheng, F., Degré, A (2020) Is least limiting water range a useful indicator of the impact of tillage management on maize yield? ***Soil and Tillage Research***.
34. Wilcox, K., Komatsu, K., Avolio, M., LeMoine, N., **C2E consortium** (2020) Improving collaborations between empiricists and modelers to advance grassland community dynamics in ecosystem models. ***New Phytologist***.
35. Cai, A., Chang, N., Zhang, W., **Liang, G**., Zhang, X., Hou, E., Jiang, L., Chen, X., Xu, M., Luo, Y (2020) The spatial patterns of litter turnover time in Chinese terrestrial ecosystems. ***European Journal of Soil Science***.
36. Gao, L., Wang, B., Li, S., Han, Y., Zhang, X., Gong, D., Ma, M., **Liang, G**., Wu, H., Wu, X., Cai, D., Degré, A (2019) Effects of different long-term tillage systems on the composition of

organic matter by 13C CP/TOSS NMR in physical fractions in the Loess Plateau of China. ***Soil and Tillage Research***.

37. Wang, J., Yang, Q., Qiao, Y., Zhai, D., Jiang, L., **Liang, G**., Sun, X., Wei, N., Wang, X., Xia, J (2019) Relative contributions of biotic and abiotic factors to the spatial variation of litter stock in a mature subtropical forest. ***Journal of Plant Ecology***.
38. Cai, A., Xu, M., Wang, B., Zhang, W., **Liang, G**., Hou, E., Luo, Y (2019) Manure acts as a better fertilizer for increasing crop yields than synthetic fertilizer does by improving soil fertility. ***Soil and Tillage Research***.
39. Wang, B., Yu, W., Wu, X., Gao, L., Li, J., Li, S., Song, X., Liu, C., Li, Q., **Liang, G**., Cai, D., Zhang, J (2019) Effect of straw addition on the formation of aggregates and accumulation of organic carbon in dryland soil. ***Scientia Agricultura Sinica***. (in Chinese with English abstract)
40. Qiao, Y., Wang, J., **Liang, G**., Du, Z., Zhou, J., Zhu, C., Huang, K., Zhou, X., Luo, Y., Yan, L., Xia, J (2019) Global variation of soil microbial carbon-use efficiency in relation to growth temperature and substrate supply. ***Scientific Reports***.
41. Wang, B., Gao, L., Yu, W., Wei, X., Li, J., Li, S., Song, X., **Liang, G**., Cai, D., Wu, X (2019) Distribution of soil aggregates and organic carbon in deep soil under long-term conservation tillage with residual retention in dryland. ***Journal of Arid Land***.
42. Gao, L., Wang, B., Li, S., Wu, H., Wu, X., **Liang, G**., Gong, D., Zhang, X., Cai, D., Degré, A (2019) Soil wet aggregate distribution and pore size distribution under different tillage systems after 16 years in the Loess Plateau of China. ***Catena***.
43. Cai, A., **Liang, G**., Zhang, X., Zhang, W., Li, L., Rui, Y., Xu, M., Luo, Y (2018) Long-term straw decomposition in agro-ecosystems described by a unified three-exponentiation equation with thermal time. ***Science of the Total Environment***.
44. Song, X., Wu, H., Wu, X., Li, Q., Wang, B., Li, S., **Liang, G**., Li, J., Liu, C., Zhang, M (2018) Long-term conservation tillage improves surface soil carbon and nitrogen content and rhizosphere soil enzyme activities. ***Journal of Plant Nutrition and Fertilizer***. (in Chinese with English abstract)
45. Li, S., Wu, X., Long, H., Zhang, S., Wang, X., **Liang, G**., Gao, L., Li, J., Wang, B., Hao, X., Li, J., Zhang, S (2017) Water and nitrogen use efficiencies of cucumber under negatively pressurized fertigation. ***Journal of Plant Nutrition and Fertilizer***. (in Chinese with English abstract)
46. Gao, L., Becker, E., **Liang, G**., Houssou, A., Wu, H., Wu, X., Cai, D., Degré, A (2017) Effect of different tillage systems on aggregate structure and inner distribution of organic carbon. ***Geoderma***.
47. Li, S., Wu, X., Dang J., Pei, X., Gao, L., Li, J., Wang, B., **Liang, G**., Long, H (2017) Effects of negative pressure irrigation on yield, quality and water and nitrogen use efficiency of cucumber. ***Soil and Fertilizer Sciences in China***. (in Chinese with English abstract)
48. Houssou, A., **Liang, G**., Gao, L., Li, J., Wu, X., Wu, H., Wang, X., Cai, D (2016) Effect of conservation tillage on soil respiration rate and water content under wheat/maize system in North China Plain. ***Journal of Soil Science and Environmental Management***.
49. Houssou, A., **Liang, G**., Gao, L., Wu, X., Wu, H., Wang, X., Cai, D (2015) Effect of Conservation Tillage on Soil Respiration, Organic Carbon, Moisture and Yield of Wheat/Maize System on North China Plain. ***International Journal of Science and Research***.

50. Li, J., Wu, H., Wu, X., Cai, D., Wang, B., **Liang, G**., Yao, Y., Lv, J (2015) Effects of 15-year conservation tillage on soil and aggregate organic carbon sequestration in the Loess Hilly Region of China. ***Scientia Agricultura Sinica***. (in Chinese with English abstract)
51. Wang, B., Wu, X., Yu, W., Yang, Y., Wang, X., Li, J., **Liang, G**., Cai, D (2015) Different carbon and nitrogen managements on soil respiration of spring maize farmland. ***Soil and Fertilizer Sciences in China***. (in Chinese with English abstract)
52. Dou, Q., Wang, J., Yin, B., **Liang, G**., Cui, X (2015) Alleviating effects of exogenous EBR on tomato seedlings during copper stress. ***Plant Physiology Journal***. (in Chinese with English abstract)
53. Wang, B., Cai, D., Wu, X., Li, J., **Liang, G**., Yu, W., Wang, X., Yang, Y., Wang, X (2015) Effects of long-term conservation tillage on soil organic carbon, corn yield and water utilization. ***Journal of Plant Nutrition and Fertilizer***. (in Chinese with English abstract)
54. Zhang, M., **Liang, G**., Jiang, C., Cui, X (2014) Exogenous nitric oxide involved in the accumulation and subcellular distribution of Fe, Zn, and Mn in tomato seedlings under copper stress. ***Journal of Plant Nutrition and Fertilizer***. (in Chinese with English abstract)
55. Yin, B., **Liang, G**., Jia, W., Cui, X (2014) Exogenous EBR mediated the plant growth and absorption and accumulation of Cu, Fe, and Zn in tomato seedlings under Cu stress. ***Chinese Journal of Eco-Agriculture***. (in Chinese with English abstract)

TEACHING EXPERIENCE

- Teaching Assistant, Biology lab. Utah State University, Fall 2019.
- Teaching Assistant, Microbiology lab. Utah State University, Spring 2019.
- Teaching Assistant, Agricultural Water Resources and Utilization, Chinese Academy of Agricultural Sciences, Spring 2014.
- Teaching Assistant, Modern Soil Tillage, Chinese Academy of Agricultural Sciences, Fall 2013.

MENTORING EXPERIENCE

- Yundi Bai (2020 - 2021), master's student at Imperial College London.
- Karen Foley (2020), a graduate technician at Utah State University.
- Camilla Moses (2020 - 2021), an undergraduate technician at Utah State University.
- Jalynn Jones (2019 - 2021), an undergraduate technician at Utah State University.
- Preston Christensen (2018 - 2019), an undergraduate technician at Utah State University.

ACADEMIC SERVICE

- **Associate editor** for ***Global Ecology and Biogeography*** (2025-present) and ***Soil Use and Management*** (2023-present)
- **Subject-matter Editor** for ***Ecological Monographs*** (2025-present)
- **Editorial board member** for ***Communications Earth and Environment*** (2025-present)
- **Section editor** for ***Plant and Soil*** (2025-present)
- **Journal Club Panelist** for ***Proceedings of the National Academy of Sciences of the United States of America*** (2025-present)
- **Editorial board member** for ***New Phytologist*** and ***Applied Soil Ecology*** (2025-present)
- **Guest editor** for ***Agronomy***, ***Water***, and ***Land*** (2021, 2022, 2024)

- **Organizer** for the oral session entitled "Microbial mechanisms of soil carbon cycling response to environmental change" during the Ecological Society of America annual meeting (2025)
- **Reviewer** for the Mentorship Award at Yale University
- **Reviewer** for USDA NIFA grants (2024)
- **Journal peer review** (> 130 reviews, verified by **Web of Science**): Nature Communications, PNAS, Ecology Letters, Global Change Biology, Global Ecology and Biogeography, New Phytologist, Soil Biology & Biochemistry, Ecology, Journal of Ecology, Ecological Applications, Agricultural Water Management, Agricultural and Forest Meteorology, CATENA, Field Crops Research, Geoderma, Plant & Soil, Soil & Tillage Research
- **Member** of Belonging committee of **Yale Postdoctoral Association** (2025-present)
- **Co-chair** for **the Social and Cultural sub-committee of the Asian Network at Yale University** (2024-present)
- **Member** of the **AGU Biogeosciences Section Fall Meeting Planning Committee** (2024-present)
- Committee **member** of the Natural Sciences subgroup of the SPHERE Community of Practice of the **National Postdoctoral Association** (2024-present)
- Committee **chair** of the Career Development of the **Association of Chinese Students and Scholars at Yale** (2025-present)
- **Postdoc representative** for **the Association of Chinese Soil and Plant Scientists in North America** (2023-present)
- **Judge** for the Murray F. Buell Award (the best oral presentation) at the ESA meeting in 2024
- **Grants and Award Chair** for the **Postdoc Board** of the College of Food, Agricultural, and Natural Resource Sciences at the University of Minnesota (2023-2024)
- **Abstract reviewer** for the 2024 Research Symposium sponsored by the College of Food, Agricultural, and Natural Resource Sciences at the University of Minnesota
- **Reviewer** for the Outstanding Student Presentation Awards at the AGU meeting in 2023
- **Proposal reviewer** for the 2019 Biology Graduate Student Association (BGSA) award sponsored by the Department of Biology at Utah State University
- **Member** of both the Ecology Center Seminar Committee in 2019 and the Biology Department Seminar Committee in 2021 at Utah State University to invite and host seminar speakers

GRANTS

- Soil carbon dynamics under global change. Funded by Cedar Creek Long-term Ecological Research Site, 2024, Co-PI, $20,000.
- Synthesis Skills for Early Career Researchers Course. Funded by the LTER Network and National Center for Ecological Analysis and Synthesis, 2024, Participant, $2,000.
- Modeled carbon cycle responses to altered precipitation and interannual variation in desert grasslands. Funded by Sevilleta Long-term Ecological Research Site, 2018, PI, $4,000.
- The impacts of manure on vegetable growth. Funded by Tai'an Environmental Protection Agency, China, 2011, PI, $1,000.

AWARDS

- **Early Career Award, 2025**

Sponsored by the Asian Ecology Section of the Ecological Society of America

- **Dependent Care Grant, 2025**

Sponsored by the Ecological Society of America

- **Biogeosciences Leaders of Tomorrow, 2025**

Sponsored by the American Geophysical Union and Journal of Geophysical Research-Biogeosciences

- **Brown Postdoctoral Fellow, 2024**

Sponsored by Yale University

- **IGCB Postdoctoral Exchange Fellow, 2024**

Sponsored by the Institute for Global Change Biology at the University of Michigan

- **Synthesis Skills for Early Career Researchers Fellow, 2024**

Sponsored by the National Center for Ecological Analysis and Synthesis

- **Stanford/Elsevier's Top 2% Scientist (Field: Agriculture, Fisheries & Forestry), 2024**

Sponsored by Sandford University and Elsevier

- **Sino-Eco Young Investigator Paper Award ($150), 2024**

Sponsored by the Sino-Ecologists Association Overseas

- **The Biogeosciences Section's Gene E. Likens Award ($250), 2024**

Sponsored by the Biogeosciences Section of the Ecological Society of America

- **Travel Award for the 2024 Geosciences Congressional Visits Day ($900), 2024**

Sponsored by the American Geophysical Union

- **Yale Postdoctoral Scholars Travel Fund Award ($2,000), 2024**

Sponsored by Postdoctoral Affairs at Yale University

- **ESA2024 Registration Grant ($530), 2024**

Sponsored by the Ecological Society of American

- **U.S. Carbon Program Leadership Award ($2,000), 2023**

Sponsored by NASA, NOAA, USDA, and USFS

- **Joseph E. Greaves Endowed Scholarship ($3,000), 2021**

Sponsored by Utah State University

- **Travel Award for attending the SSSA meeting ($500), 2020**

Sponsored by Utah State University

- **IPNI Scholarship ($2,000), 2016**

Sponsored by the International Plant Nutrition Institute (IPNI)

- **Monsanto Scholarship ($1,000), 2016**

Sponsored by Monsanto Company

- **Best Oral Presentation, 2016**

Sponsored by Symposium for Chinese Young Soil Scientists

- **Academic Scholarship, 2013-2014**

Sponsored by the Chinese Academy of Agricultural Sciences

- **Outstanding Student in Social Work, 2011-2012**

Sponsored by Shandong Agricultural University

- **Academic Scholarship, 2011-2012**

Sponsored by Shandong Agricultural University

- **Second prize in the Environmental Design Contest, 2011**

Sponsored by the Shandong Society of Environmental Sciences

ORAL PRESENTATIONS

- **Liang, G**., Jiang, P., Chen, X., Pastore, M., Taylor, A., Reich, P, Wong, M. Drivers of aboveground forest biomass in North America: tradeoffs between productivity and mortality. ***ESA meeting***, Baltimore, MD, 2025.
- **Liang, G**. Effects of global change on territorial carbon cycling. ***Sino-Ecologists Association Overseas***, Online, 2025.
- **Liang, G**. Paper writing, submission, and publication: Perspectives from an author, reviewer, and editor. ***Chinese Academy of Agricultural Sciences***, Beijing, China, 2025.
- **Liang, G**. The responses of crop yield and soil organic carbon to agricultural management practices. ***Shandong Agricultural University***, Shandong Province, China, 2025.
- **Liang, G**. Effects of environmental change and tree biodiversity on forest carbon cycling. ***International Centre for Bamboo and Ratan***, Beijing, China, 2025.
- **Liang, G**. How to protect Earth? ***Yale University-Calvin Hill Day Care Center***, New Haven, CT, 2025.
- **Liang, G**. Effects of environmental change and agricultural management on terrestrial carbon cycling. ***University of Louisiana***, Lafayette, LA, 2024.
- **Liang, G**. Global pattern of warming effects on microbial respiration is explained by soil microbial biomass carbon and nitrogen. ***ESA meeting***, Long Beach, CA, 2024.
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